AMENDMENT TO SPECIFICATION

Applicants have provided a substitute specification in accordance with 37 CFR 1.125(b) and MPEP §608.01(q). Applicants have included with this Response a marked up copy and a clean copy of the substitute specification.

Applicants herein state that no new matter is included in the substitute specification.

STRETCH ~~FRISBEES~~ FLYING DISCS

BACKGROUND OF THE INVENTION

The present invention relates to ~~frisbees~~ flying discs. More particularly, although not exclusively, the invention relates to an elastic ~~frisbee~~ flying disc designed to be catapulted by hand and to convert stored elastic energy into kinetic flying energy as if despatched by a slingshot.

Children have played with slingshots for many years. A slingshot traditionally comprises a Y-shaped bracket and an elastic band mounted between the top extremities of the bracket. A small object is held against the elastic band, which is then drawn back and released to propel the object through the air. That is, the potential energy stored in the stretched elastic band is converted to ballistic kinetic energy of the small object.

~~Frisbees~~ Flying discs have also been around for many years. These are circular in shape and are fabricated from plastics or other material and resemble an inverted saucer. When a ~~frisbee~~ flying disc is despatched by correct throwing, it spins upon its central axis during its trajectory through the air in a floating manner.

Traditional ~~frisbees~~ flying discs are fairly large objects not lending themselves to being carried in one's pocket.

OBJECT OF THE INVENTION

It is the object of the present invention to provide a ~~frisbee~~ flying disc that can be despatched by hand in a manner that converts ~~frisbee~~ flying disc-stored energy into ballistic kinetic energy so as to fly through the air without the need for a separate slingshot or other external propeller.

DISCLOSURE OF THE INVENTION

There is disclosed herein a ~~frisbee~~ flying disc comprising:

a body formed of material capable of stretching elastically and converting stored elastic energy therein into ballistic kinetic energy when despatched by hand.

Preferably the body is formed of a material capable of stretching beyond twice its relaxed length.

Preferably the ~~frisbee~~ flying disc comprises a gripping aperture adjacent its periphery.

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred forms of the present invention will now be described by way of example with reference to the accompanying drawings, wherein:

Figure 1 is a schematic perspective illustration of a stretch ~~frisbee~~ flying disc in a relaxed state,

Figure 2 is a schematic perspective illustration of the stretch ~~frisbee~~ flying disc of Figure 1 partially stretched,

Figure 3 is a schematic perspective illustration of the stretch ~~frisbee~~ flying disc of Figures 1 and 2 in a very stretched state,

Figure 4 is a schematic perspective illustration of the ~~frisbee~~ flying disc of Figures 1 to 3 just after being despatched by hand,

Figures 5 and 6 are schematic perspective illustrations of the ~~frisbee~~ flying disc during its trajectory,

Figures 7 to 12 are schematic perspective illustrations of alternative ~~frisbee~~ flying disc shapes,

Figure 13 is a schematic cross-sectional illustration of the ~~frisbee~~ flying disc of Figure 12 taken at XIII-XIII in that figure, and

Figures 14 to 16 are schematic perspective illustrations of further alternative ~~frisbee~~ flying disc shapes.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the accompanying drawings there is depicted schematically a number of stretch ~~frisbee~~ flying discs, each typically formed as a moulding of a soft elastic material such as soft natural rubber or those thermoplastic rubbers (TPR's) that are soft and highly elastic. The material would preferably be capable of elastic elongation of a few hundred percent, and display a Shore A hardness of say 10 or less. A gelatinous composition produced by a melt blend of a copolymer and plasticising oils might be appropriate. Such compositions are disclosed in U.S. Patent Number 4,618,213 to John Y. Chen.

Figures 1 to 6 show a ~~frisbee~~ flying disc that in its relaxed state takes the form of a circular disc 10 having an aperture 11 near its periphery. The aperture is in the form of a slit or hole that can open out when the ~~frisbee~~ flying disc is stretched by hand.

The ~~frisbee~~ flying disc shown in Figure 7 is oval-shaped when relaxed and also includes a slit or hole 11 near its periphery.

Figure 8 depicts a ~~frisbee~~ flying disc that is hexagonal in its relaxed form, having a slit or aperture 11 near one of its corners.

The ~~frisbee~~ flying disc of Figure 9 has an extension 12 within which there is a slit 11.

The ~~frisbee~~ flying disc of Figure 10 is hat-shaped having a slit 11 in its rim.

The ~~frisbee~~ flying disc of Figure 11 is shaped somewhat like a cross section through the centre of a piece of fruit-having apertures 13 spaced around a centre-piece 14 from which bridges 15 extend between the apertures 13 to a peripheral rim. There is a slit 11 in the peripheral rim.

The ~~frisbee~~ flying disc of Figures 12 and 13 has a flat centre plate 16 and an integral ring 17 of increased thickness thereabout. There is a slit 11 through the centre plate adjacent to the ring.

Further alternative designs are shown in Figures 14 to 16, these being shaped like a fan blade, clover-shaped and pentagonal respectively and each having a slit or aperture 11 near a peripheral edge.

The ~~frisbee~~ flying disc would typically have a thickness of a view. The diameter of each ~~frisbee~~ flying disc might range from a few centimeters to several tens of centimeters. The slit 11 can be cut through the disc at a position close to its periphery.

The ~~frisbees~~ flying discs are intended to be foldable to enable easy pocket-insertion if made in the larger sizes.

In order to despatch a ~~frisbee~~ flying disc, reference is made to Figures 1 to 6. The thumb or finger of one's hand is pushed through the slit 11 with the palm of that hand facing away from the player's body. The opposite end of the ~~frisbee~~ flying disc is then grasped and drawn back so as to stretch the ~~frisbee~~ flying disc as indicated by arrows A in Figures 2 and 3. The ~~frisbee~~ flying disc is then aimed and released so as to be despatched in the direction indicated by arrow B in Figure 4. After practice, a spin can be induced in the ~~frisbee~~ flying disc as shown by arrows C in Figures 5 and 6. Elastic energy that is stored in the ~~frisbee~~ flying disc in the configurations depicted in Figure 3 is converted into rotational ballistic kinetic energy in use-providing entertainment to the user-if so inclined.

When high-speed rotation is induced in the ~~frisbee~~ flying disc, centrifugal forces will cause radial expansion of the ~~frisbee~~ flying disc. The embodiment of Figure 11 has a high rotational mass moment of inertia by virtue of the apertures 13 and the narrow radical bridges 15 will stretch due to centrifugal forces of the periphery. The embodiment of Figures 12 and I3 also has a high rotational mass moment of inertia by virtue of the thickened rim 17 and will also expand radially in flight under the influence of centrifugal forces.

It should be appreciated that modifications and alterations obvious to those ~~killed~~ skilled in the art are not to be considered as beyond the scope of the

present invention. For example materials other than those specifically mentioned might be adopted.